

REMARKS

I. STATUS OF THE CLAIMS

Claims 1, 3 – 8, 9, and 11 – 12 are pending.

Claims 1 and 3 – 8 have been allowed.

Claim 9 has been amended to incorporate the limitations of claim 10 and claim 10 has been cancelled accordingly.

Claims 11 and 12 have been amended to include proper dependency.

No new matter has been added.

II. ANTICIPATION REJECTIONS

Claims 9 – 12 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by at least one of US 5,418,682, JP 2000-86671, or JP 10-87574.

To anticipate a claim, a cited reference must teach each and every element of the claim. MPEP 2131 (citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) ("A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference").

Electrolytes generally consist of free ions in a solution. (See, e.g., <http://en.wikipedia.org/wiki/Electrolyte>). The method of claim 1 involves producing an electrolyte by dissolving tetraalkylammonium and tetrafluoroborate salts in a solvent selected from nitrites, dinitriles, alkyl carbonates, alkylene carbonates, and lactones. The resulting electrolyte, therefore, is not limited only to its ions, but necessarily includes at least one of these solvents. Accordingly, the electrolyte of claim 9 comprises tetraalkylammonium and tetrafluoroborate ions in a solvent selected from nitrites, dinitriles, alkyl carbonates, alkylene carbonates, and lactones. Although the term electrolyte necessarily includes a solvent, Applicants have amended claim 9 to clarify that a solvent is a part of the electrolyte composition.

Applicants have surprisingly found that the claimed solvents, when combined with tetraalkylammonium and tetrafluoroborate ions, produce an electrolyte that is unexpectedly functional despite having relatively high concentrations of metal halide

impurities. None of the cited references teach a TEA-BF₄ electrolyte having from 10 ppm to 2% weight percent of a metal impurity. The Office argues that the cited references teach the preparation of an alkylammonium-BF₄ salt from alkylammonium halide and metal tetrafluoroborate precursors and, therefore, inherently includes a metal halide impurity. However, these references do not teach that the salt is formed in a solvent suitable as an electrolyte such as the claimed nitrites, dinitriles, alkyl carbonates, alkylene carbonates, and lactones. Instead, US 5,418,682 discloses methanol as a solvent, and JP 2000-86671 and JP 10-87574 disclose methanol, ethanol, and propanol. There is nothing in any of these references that teach that the resulting alkylammonium-BF₄ salt with metal impurities is subsequently dissolved in the claimed solvent. In fact, US 5,418,682 teaches the separation of the sodium chloride impurities from the alkylammonium-BF₄ salt. (Col. 5, lines 18 – 23.) Since the cited references do not teach a TEA-BF₄ electrolyte with metal halide impurities, they do not anticipate the claimed composition. For at least this reason, the Office's rejection is respectfully traversed.

III. CONCLUSION

Applicants believe that this correspondence is fully responsive to the pending Office Action. In view of the abovementioned reasons and the proposed claim amendments, Applicants assert that the claims are in condition for allowance. The Office is invited to contact the undersigned to further the prosecution of this application in any way.

Respectfully submitted,

March 17, 2009

/Jimmie Johnson/
Jimmie Johnson, Reg. No. 52,485

Fox Rothschild, LLP
2000 Market Street, 10th Floor
Philadelphia, PA 19103
Telephone: (215) 299-2417
Facsimile: (215) 299-2150